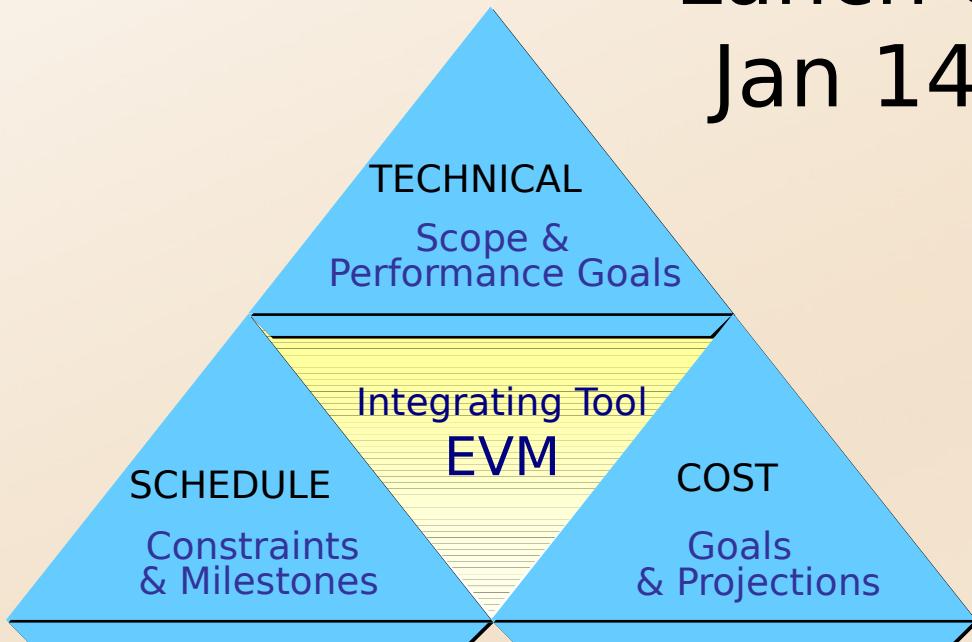


Earned Value Management (EVM) Fundamentals

Lunch & Learn
Jan 14, 2015

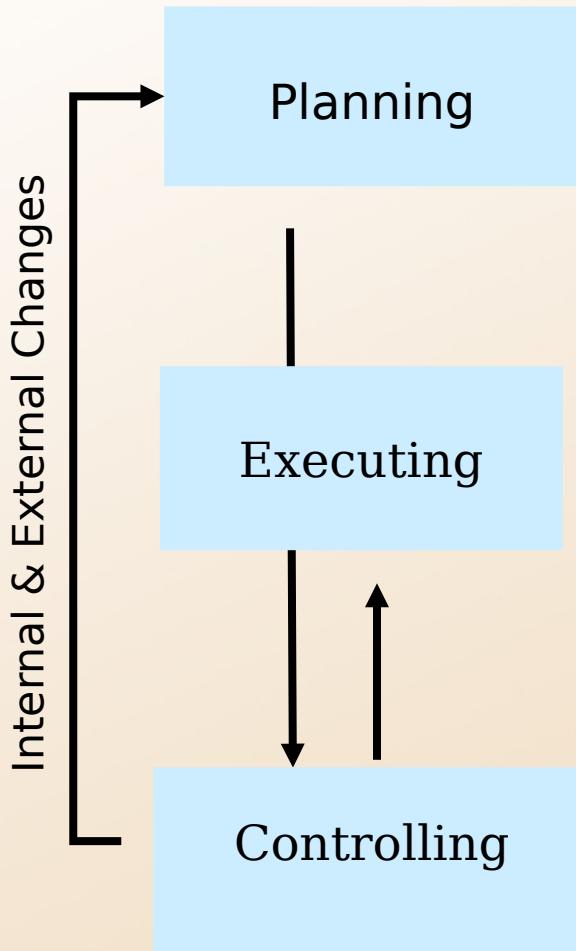


Presented by:
Defense Acquisition
University
Joel Little
Joel.Little@dau.mil



The EVM Process

- Integrated Program Management -



- An Integrated Plan Is Established (PMB)
 - *Work Is Defined, Scheduled, and Resources Are Allocated to Lowest Level for Execution*
 - *Risks Are Identified (the IBR Process)*
 - *Risk Management Plan Established*
- Budgets Are “Earned” As Work Is Completed (*Earned Value*)
- Actuals Are Accumulated (ACWP)
- Status Provided Against Baseline (PMB)
- Variances Are Isolated (Cost/Schedule Drivers)
 - *Early Warning*
- Management Actions
 - *Corrective Action Identified & Implemented*
 - *Changes Are Implemented & Controlled*
- Final Estimated Cost & Schedule are Forecast



DoDI 5000.02 EVM Policy Guidance

Table 8. EVM Requirements

REQUIREMENTS	WHEN REQUIRED	SOURCE
For Cost/Incentive Contracts ¹ ≥ \$50 Million ²		
• Compliance with EVM system guidelines in ANSI/EIA-748 ³	At contract award and throughout contract performance	Part 7 of Reference (c) This instruction
• EVM system formally validated and accepted by cognizant contracting officer	At contract award and throughout contract performance	
• Integrated Program Management Report (DI-MGMT-81861 ⁴)	Monthly	
• Integrated Baseline Reviews	Within 180 calendar days after contract award, exercise of options, and major modifications	
For Cost/Incentive Contracts ¹ ≥ \$20 Million ² but < \$50 Million ²		
• Compliance with EVM system guidelines in ANSI/EIA-748 ⁵ (no formal EVM system validation)	At contract award and throughout contract performance	Part 7 of Reference (c) This instruction
• Integrated Program Management Report (DI-MGMT-81861 ⁴) (tailoring of formats recommended)	Monthly	
• Integrated Baseline Reviews	Within 180 calendar days after contract award, exercise of options, and major modifications	
For Cost/Incentive Contracts ¹ < \$20 Million ²	At the discretion of the Program Manager based on cost-benefit analysis	Part 7 of Reference (c) This instruction
• Integrated Program Management Report, Format 6 (DI-MGMT-81861 ⁴)	At the discretion of the Program Manager based on Government requirements	
For Firm Fixed-Price Contracts ¹ regardless of dollar value	Limited Use—will be approved by the MDA based on a business case analysis	Part 7 of Reference (c) This instruction
• Integrated Program Management Report, Format 6 (DI-MGMT-81861 ⁴)	At the discretion of the Program Manager based on Government requirements	

Notes:

1. The term, "Contracts," includes contracts, subcontracts, intra-government work agreements, and other agreements. "Incentive" contracts include fixed-price incentive.
2. Application thresholds are in then-year dollars.
3. DI-MGMT-81861 = Data Item Description: Integrated Program Management Report (Reference (az))
4. EVM shall be applied to cost/incentive Indefinite Delivery/Indefinite Quantity contracts at the task order level. For each task order follow the above table.
5. ANSI/EIA-748 = American National Standards Institute (ANSI)/Electronic Industries Alliance (EIA) Standard 748, Earned Value Management Systems (Reference (ba)).

Contracts ≥ \$50M TY

- Compliance with 32 EVMS Guidelines
- Formal EVM system validation
- Contract Performance Report*
- Integrated Master Schedule*
- Baseline Reviews
- Ongoing surveillance

Contracts ≥ \$20M but < \$50M TY

- Compliance with 32 EVMS Guidelines
- No Formal EVM system validation
- Contract Performance Report (tailored)*

- Integrated Master Schedule (tailored)*
- Integrated Baseline Reviews

Contracts < \$20M TY

- EVM optional (risk-based decision)
- Cost-benefit analysis required

* Integrated Program Management Report replaces CPR and IMS on RFPs issued after 1 July 2012 ([AT&L Memo, Jun 19 2012](#))

Contracts -- Cost/Incentive contracts, subcontracts, intra-government work agreements. EVM Discouraged on FFP.

EVMIG also discourages EVM when nature of work is LOE or Time & Material.



Section I - General Provisions

- FAR Clauses – July 2006
 - FAR 52.234-2 - Notice of EVMS - Pre-Award IBR
 - FAR 52-234-3 - Notice of EVMS - Post Award IBR
 - FAR 52-234-4 - EVMS - The Gov will conduct an IBR if a pre-award IBR has not been conducted.
- DFARS Section 234.203 – Solicitation provisions & contract clause (Dec 2011)
 - Use the provision at DFARS 252.234-7001, Notice of Earned Value Management System, instead of the provisions at FAR 52.234-2 and FAR 52.234-3 in the solicitation
 - Use the clause at DFARS 252.234-7002, Earned Value Management System, instead of the clause at FAR 52.234-4 in the solicitation and contract.
 - Use DFARS 252.242-7005, Contractor Business Systems, to allow for withholding payments due to non-compliant EVMS issue
 - Includes links to procedures on performing cost benefit analyses and waiver

DoD Contracts will NOT use FAR Clauses for EVM



Section J - Exhibits/Attachments

- Work Breakdown Structure - MIL-STD-881 mandatory common WBS for CPR, IMS, IPMR & CCDRs through WBS Level 3
- EVM Related Data Item Descriptions (DIDs)

Contract Performance Report	DI-MGMT-81466A
Integrated Master Schedule	DI-MGMT-81650

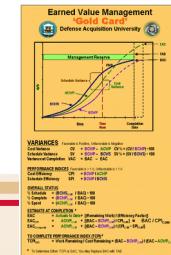
Integrated Program Management Report DI-MGMT-81861 **(Supersedes CPR & IMS DIDs effective July 1, 2012)**

- FM & Cost Related Data Item Descriptions (DIDs)

Contract Work Breakdown Structure	DI-MGMT-81334D
Contract Funds Status Report	DI-MGMT-81468A
Cost and Software Data Reports	DI-FNCL-81565C thru 81567C
- Contract Data Requirements List (CDRL) places CPR & IMS on contract
- EVM CDRLs can and should be tailored within bounds of policy
 - Tailoring options are limited for contracts $\geq \$50M$
 - Most aspects are tailorable for contracts $< \$50M$
- Consider all risk factors when tailoring EVM DIDs
 - Type of contract (determined by cost risk)
 - Technology
 - Schedule
 - Past contractor performance



EVM Key Elements



QUESTION

How Much Work Should Be Done?

How Much Work Is Done?

How Much Did The Completed Work Cost?

What Was The Total Job Supposed To Cost?

What Do We Now Expect The Total Job To Cost?

ANSWER

Budgeted Cost For Work Scheduled
The Plan

Budgeted Cost For Work Performed Or
Earned Value

Actual Cost Of Work Performed

Budget At Completion

Estimate At Completion

ACRONYM

BCWS

BCWP

ACWP

BAC

EAC



Where does it all start?

Earned Value Management within the Contracting Process

GOVERNMENT

ACQUISITION
STRATEGY

DEVELOP RFP

PROVIDER

DEVELOP
PROPOSAL

MGT VOLUME

TECH VOLUME

COST VOLUME

NEGOTIATION
SOURCE SELECTION
AWARD PROJECT

ESTABLISH
PROJECT
BASELINE

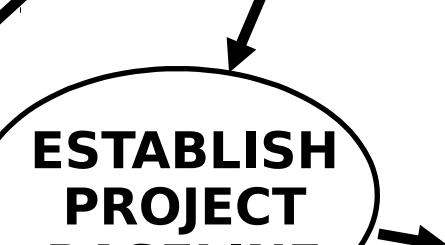
ASSESS RISK

DEVELOP MR

ASSIGN
BUDGETS

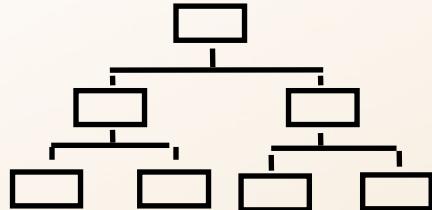
STATUS
REPORTS

PROJECT
EXECUTION &
PERFORMANCE
MEASUREMENT



PMB Development Steps

Step 1. Define the Work Scope



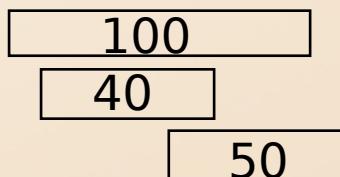
- Identify the scope of work
- Plan the work at the control account / work package level

Step 2. Schedule the Work



- Arrange the work packages in order
- Schedule work packages

Step 3. Allocate Budgets to Schedule



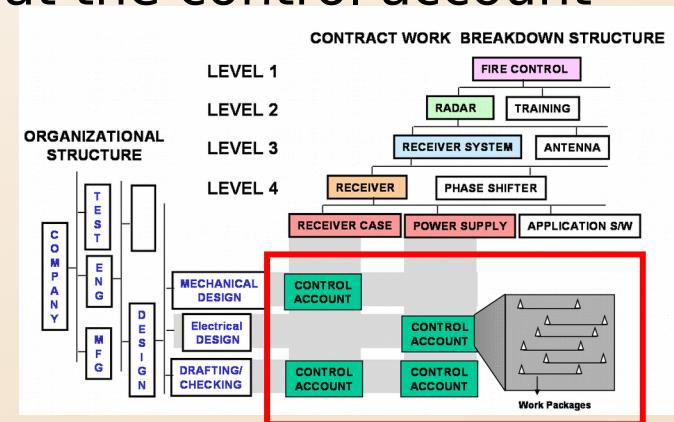
- Classify the work and select an EV technique
- Budget the work packages
- Spread the budget over time
- Calculate cumulative BCWS

The Control Account

- All earned value is accomplished at the control account
 - BCWS is established
 - BCWP is determined
 - ACWP is collected
 - Variances are assessed
 - Estimates are revised
 - Workaround plans are devised

- In IPT organization structures, the control account may be tied to an IMP Significant Accomplishment or Accomplishment Criteria.

- ANSI Definition - A management control point at which budgets (resource plans) and actual costs are accumulated and compared to earned value for management purposes. A control account is a natural management point for planning and control since it represents the work assigned to one responsible organizational element on one program work breakdown structure element.



Schedule Integration

MASTER SCHEDULE

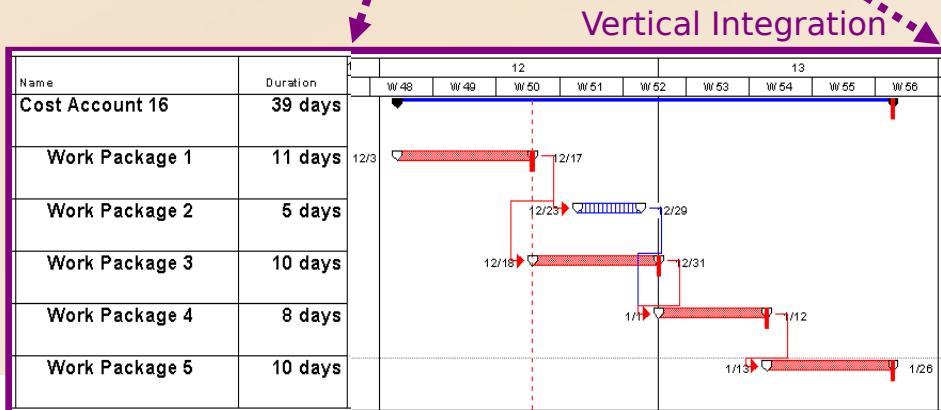
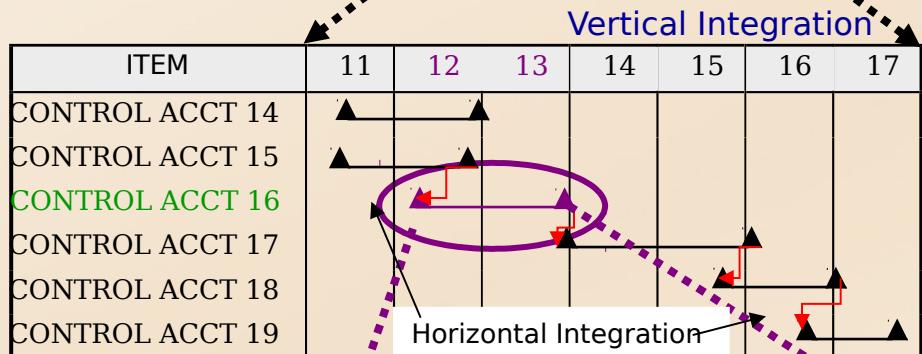
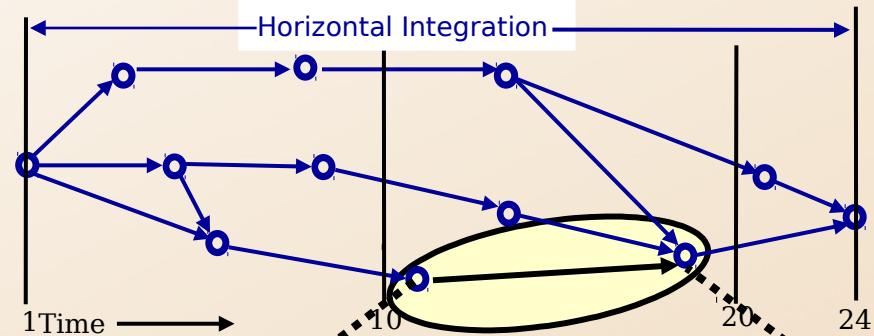
- Single Top Program Level Schedule
- Schedules IMP Program Elements
- Schedules Program and Contract Milestones
- Horizontally Integrated – Depicts task relationships among IMP Program Elements and Milestones

INTERMEDIATE LEVEL SCHEDULE

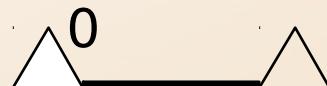
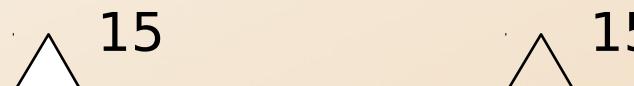
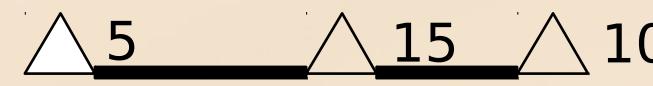
- Subordinate to Master Schedule scheduling a single or a limited number of Program Elements
- Schedules Associated EVMS Control Accounts
- Schedules IMP Significant Accomplishment Milestones
- Horizontally Integrated – Depicts task relationships among control accounts & significant accomplishments
- Vertically Integrated – All schedule elements completed in time allocated to associated

DETAIL LEVEL SCHEDULE

- Control Account Schedule
- Schedules IMP Accomplishment Criteria Milestones
- Horizontally Integrated – Depicts task relationships among Work Packages & Accomplishment Criteria
- Vertically Integrated – All detailed schedule work packages completed in time allocated to control account



Earned Value Techniques

<u>METHOD</u>	<u>LENGTH</u>	<u>BCWP CALCULATION</u>
0 / 100 %	1 Mth	
50 / 50 %	2-3 Mths	
% Complete	Varies	
Variant Milestone	3 or More Mths	
Level of Effort	Varies	
Apportioned Effort	Varies	



Result: Time Phased PMB

Total Allocated Budget

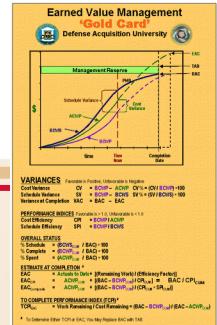
Management Reserve

BAC

Timephased BAC = PMB =
BCWS^{cum}

Time

Completion Date



Example -- *Without Earned Value*

- Contract: 4 Miles of Railroad Track in 4 Mos for \$4K
- Status: After 3 Mos Only \$2K Spent of \$3K Planned
- Question: How are You Doing and How Do You Know?

Planned Work \$3K

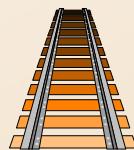


Month 1 @ \$1K

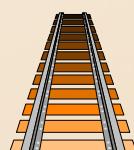
Actual Costs \$2K



Month 1 @ \$1K



Month 1 @ \$1K

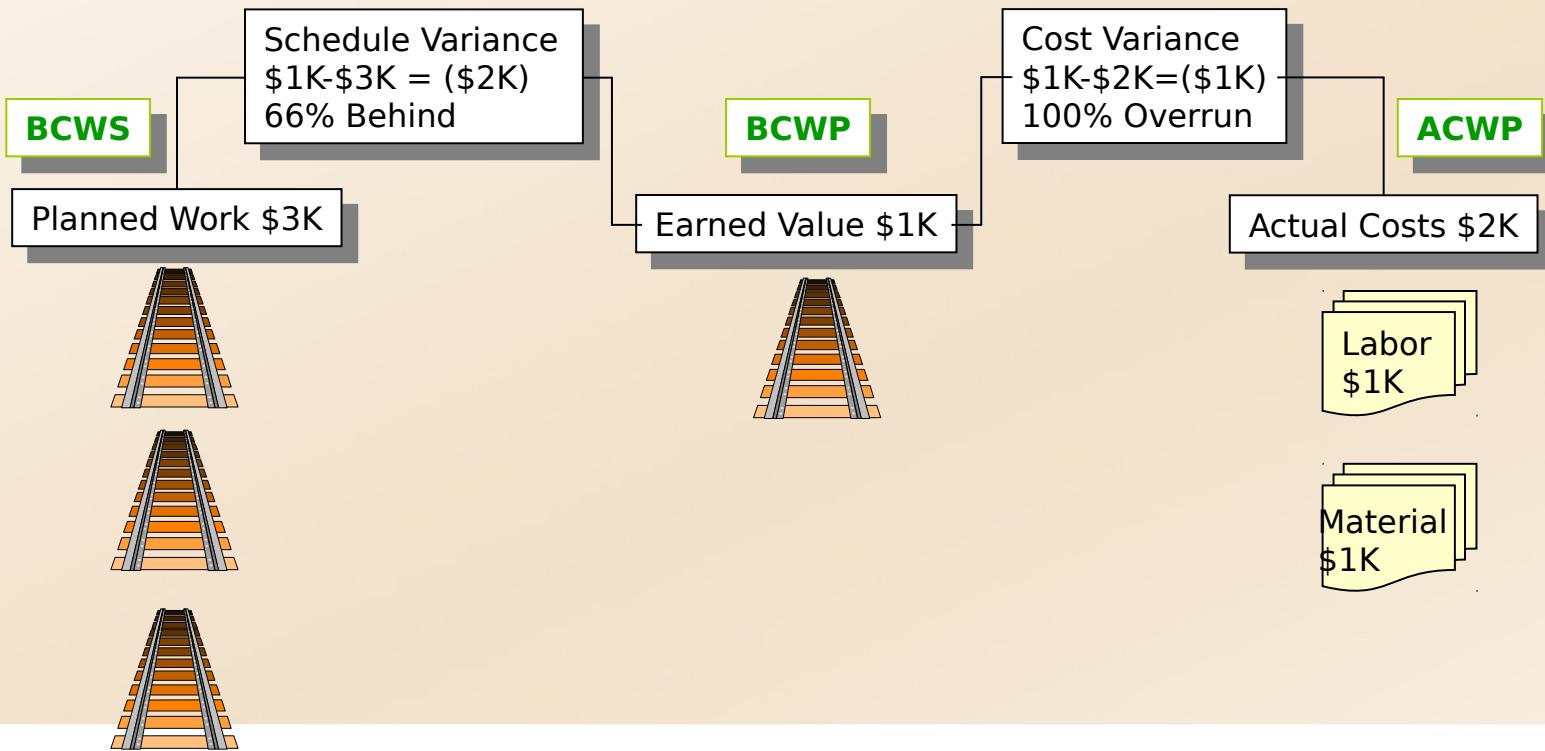


Month 1 @ \$1K

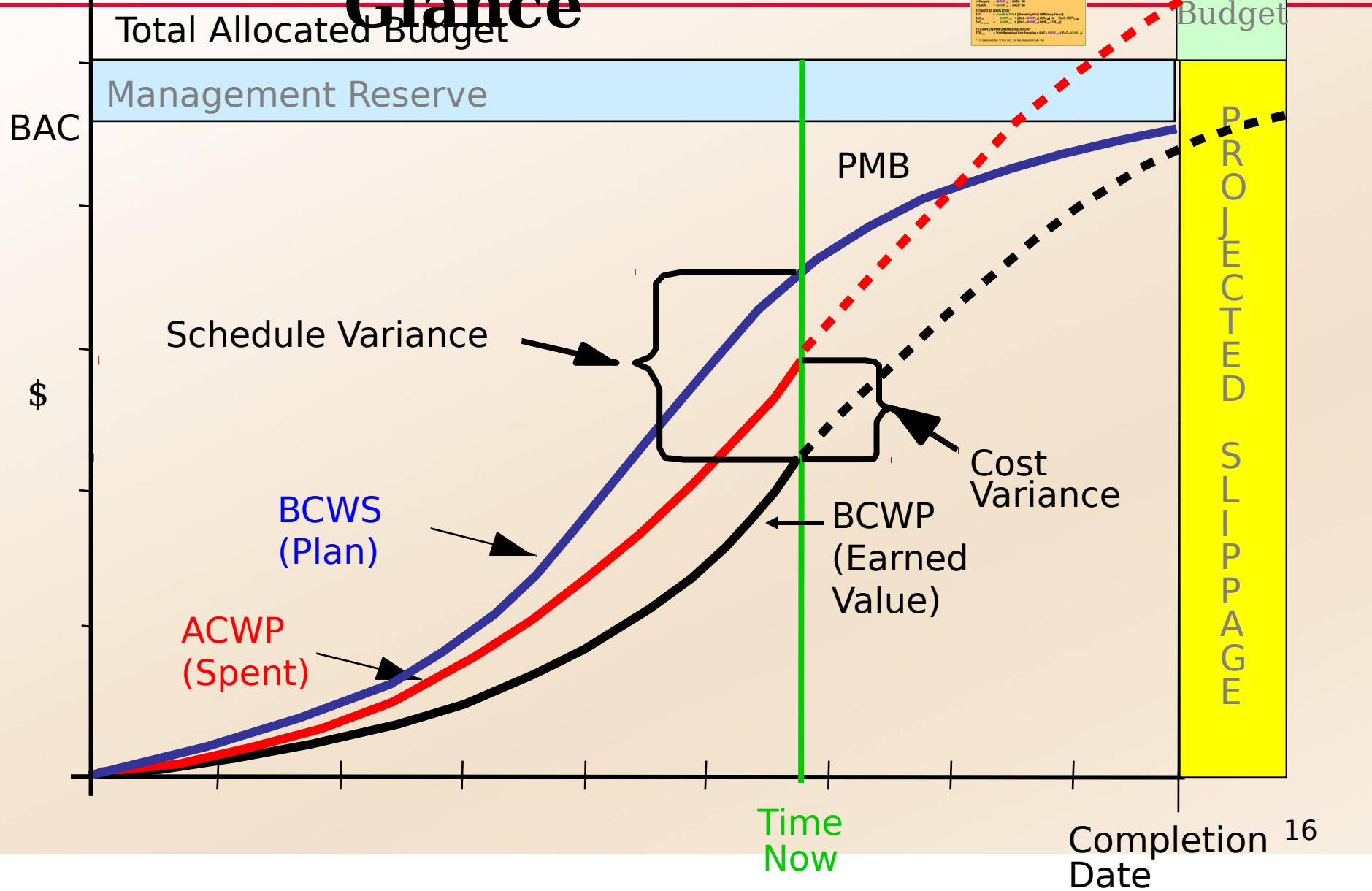
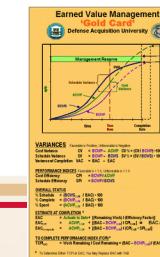


Example -- *With Earned Value*

- Contract: 4 Miles of Railroad Track in 4 Mos for \$4K
- Status: After 3 Mos Only 1 Mile of Track is Complete yet \$2M Spent
- Question: What Would You Tell the PM?



Program at a Glance





General EVM Report Tailoring

- IPMR Tailoring Guidance
 - Format 1 & 2 Reporting Levels
 - Reporting Frequency
 - Submission Dates
 - Date of first and last reports
 - Format 5 variance reporting thresholds
 - Fixed Number of Variances
 - Percentage or Dollar Thresholds
 - Specific Variances
 - Contractor format
 - Electronic data interchange format
- IMS Tailoring Guidance
 - Degree of networking
 - Reporting Frequency
 - Submission Dates
 - Date of first and last reports
 - Frequency of schedule risk analysis
 - Electronic data interchange format



Integrated Program Management Report (IPMR)

- Format 1 - Work Breakdown Structure (WBS)
- Format 2 - Organizational Breakdown Structure (OBS)
- Format 3 - Baseline Data
- Format 4 - Manpower Data
- Format 5 - Variance Analyses
- Format 6 - Integrated Master Schedule
- Format 7 - Historical Data (BCWS, BCWP, ACWP, BAC, EAC, etc)

EVM provides an Objective means by which to Evaluate Contract Performance and predict the Future based on risk



Sample IPMR - Format 1

Unclassified

CLASSIFICATION (Not Filled In)

CONTRACT PERFORMANCE REPORT FORMAT 1 - WORK BREAKDOWN STRUCTURE

DOLLARS IN THOUSANDS

ROBM APPROVED

Key Contract & Contractor Data

Boxes 1 - 4:

The burden to you to supply this collection of information is estimated to average 3.1 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing, including the time for reviewing instructions, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-01-08), 1215 Jefferson Davis Highway, Suite 1204, Arlington Defense, Washington Headquarters Services, Virginia 22202. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS. Failure to do so shall subject you to any penalty or fine imposed by law.

1. CONTRACTOR	2. CONTRACT	3. PROGRAM
a. NAME	LAR DEC 2003	b. NAME
b. LOCATION (Address and ZIP Code)	c. NUMBER	d. PHASE
1000 W Hollymoly St Los Angeles, CA 90293	DAAH01-03-C-0076	SDO

e. CONTRACT TYPE	f. SHARE RATIO	g. EVMS ACCEPTANCE NO	h. CONTRACT CLOSING	i. DATE OF OTB/GTS
CPIF	50/50 30/70	YES X (YYYYMMDD) 19850519	20031231	(YYYYMMDD)

a. QUANTITY	b. NEGOTIATED COST	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK	d. TARGET PROFIT/FEE	e. TARGET PRICE	f. ESTIMATED PRICE	g. CONTRACT CLOSING	h. DATE OF OTB/GTS
40/4	Box 5 \$64,711.5	\$0.00	\$7,700 / 11.9%	\$72,412.2	\$70,301.80	\$75,475.7	(YYYYMMDD)

6. ESTIMATED COST AT COMPLETION	MANAGEMENT ESTIMATE AT COMPLETION							CONTRACT BUDGET BASE							VARIANCE		
	(1)							(2)									
a. BEST CASE	\$59,512.6																
b. WORST CASE	\$64,711.5																

c. MOST LIKELY	\$63,378.7																
----------------	------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

7. AUTHORIZED CONTRACTOR REPRESENTATIVE	Box 6 Pop I Smith	Box 7 First Middle Initial Smith, Pop. I	b. TITLE	l. DATE OF OTB/GTS
			LAR Program Manager	(YYYYMMDD)

8. BUDGETED COST	ACTUAL COST	CUMULATIVE TO DATE		REPROGRAMMING ADJUSTMENTS		AT COMPLETION
WORK SCHEDULED (2)	WORK PERFORMED (3)	VARIANCE	BUDGETED COST	ACTUAL COST	VARIANCE	BUDGETED (14)
SCHEDULED (2)	PERFORMED (3)	SCHEDULE (6)	COST (7)	SCHEDULED (8)	COST (10)	ESTIMATED (15)

a. WORK BREAKDOWN STRUCTURE ELEMENT	BCWS	BCWP	ACWP	SV	CV	BCWS	BCWP	ACWP	SV	CV							
1.1 PRIME VEHICLE	1,722.7	1,353.1	1,775.0	-369.6	-421.9	6,829.2	5,874.0	6,410.3	-956.2	-536.3							
1.1.1 FRAME	139.8	116.1	119.1	-23.7	-3.0	492.5	430.8	478.7	-61.7	-47.9							
1.1.2 SUSPENSION/STR	390.8	279.4	352.4	-111.4	-73.0	1,346.2	1,019.4	1,149.0	-326.8	-129.6							
1.1.3 POWER PACKAGE	518.1	527.7	524.0	-	-	1,774.1	2,040.6	2,160.2	-224.1	-427.0							
1.1.4 AUXILIARY AUTO	6.3																
1.1.5 ARMAMENT	297.1																
1.1.6 BODY/CAB	300.0																
1.1.7 COMMUNICATIONS	50.5																
1.1.8 INTEG & ASSEM	20.1																
1.2 SYS PROGRAM MGT	295.7																
1.3 SYS TEST & EVAL	0.0																
1.4 TRAINING	0.0																
1.5 SYS DATA	17.7																
1.6 PEC SUPT EQUIP	0.0																
1.9 SPARES & REP	0.0																
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
b. COST OF MONEY	15.2	12.5	39.0	-2.7	-26.5	151.0	149.0	162.2	-2.0	-13.2							
c. GENERAL AND ADMINISTRATIVE	148.2	121.0	192.6	-27.2	-71.8	1,460.6	1,437.7	1,558.4	-12.9	-120.7							
d. UNDISTIBUTED BUDGET															0	0	0
e. SUBTOTAL (PERFORMANCE MEASUREMENT BASELINE)	2,051.3	1,598.2	2,131.7	-453.1	-533.5	11,346.3	10,064.7	10,887.6	-1,281.6	-822.9					63,439.2	63,289.4	149.8
f. MANAGEMENT RESERVE															1,272.30		
g. TOTAL	2,051.3	1,598.2	2,131.7	-453.1	-533.5	11,346.3	10,064.7	10,887.6	-1,281.6	-822.9					64,711.5	63,289.4	1,422.1
h. RECONCILIATION TO CONTRACT BUDGET BASE																	
i. VARIANCE ADJUSTMENT															0.0	0.0	
j. TOTAL CONTRACT VARIANCE															-1,281.6	-822.9	
k. FORM 1840A-05																	

Unclassified

CLASSIFICATION (Not Filled In)



Sample IPMR – Format 2

Undassified

CLASSIFIED BY: [REDACTED]

CONTRACT PERFORMANCE REPORT FORMAT 2 - ORGANIZATIONAL CATEGORIES												DOLLARS IN THOUSANDS			FORM APPROVED OMB No. 0704-0188			
The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing, including suggestions for reducing the burden. To Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlingtonment of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.																		
1. CONTRACTOR			2. CONTRACT			3. PROGRAM			4. REPORT PERIOD									
a. NAME			a. NAME			a. NAME			a. FROM (YYYYMMDD) 20031229									
b. LOCATION (Address and ZIP Code)			b. NUMBER			b. PHASE			b. TO (YYYYMMDD) 20031231									
1000 W Hollymolly St Los Angeles, CA 90293			DAAH01-03-C-0076			SDO												
c. TYPE			d. SHARE RATIO			e. EVMS ACCEPTANCE												
CPIF			50/50			NO YES X			(YYYYMMDD) 19850519									
5. PERFORMANCE DATA																		
ITEM (1)	CURRENT PERIOD						CUMULATIVE TO DATE						REPROGRAMMING ADJUSTMENTS			AT COMPLETION		
	BUDGETED COST		ACTUAL COST		VARIANCE		BUDGETED COST		ACTUAL COST		VARIANCE		COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)
	WORK SCHEDULED (2)	WORK PERFORMED (3)	WORK PERFORMED (4)	SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)	PERFORMED (9)	SCHEDULE (10)	COST (11)	VARIANCE (12a)	SCHEDULE (12b)						
a. ORGANIZATIONAL CATEGORY																		
2A - PROGRAM OFFICE	167.0	167.0	155.4	0.0	11.6	1,090.5	1,090.5	901.0	0.0	189.5				5,009.4	5,009.4	0.0		
2B - PROGRAM CONTROL	109.5	109.5	72.6	0.0	36.9	645.8	645.8	483.2	0.0	162.6				2,191.6	2,191.6	0.0		
2C - SUPPORT SERVICE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				1,252.3	1,252.3	0.0		
2D - MANUFACTURING	375.7	375.7	405.9	0.0	-30.2	1,351.3	1,351.3	1,378.6	0.0	-27.3				18,785.2	18,785.2	0.0		
2E - QUAL ASSURANCE	37.5	37.5	45.0	0.0	-7.5	135.1	135.1	140.3	0.0	-5.2				1,878.5	1,878.5	0.0		
2F - PROCUREMENT	392.6	392.6	382.3	0.0	10.3	1,894.7	1,894.7	1,876.7	0.0	18.0				11,897.3	11,747.5	149.8		
2G - ENGINEERING	953.6	503.3	1,031.7	-450.3	-528.4	6,077.8	4,798.4	5,945.8	-1,279.4	-1,147.4				21,603.0	21,603.0	0.0		
b. COST OF MONEY	15.2	12.5	39.0	-2.7	-26.5	151.0	149.0	162.2	-2.0	-13.2				821.8	821.8	0.0		
c. GENERAL AND ADMINISTRATIVE	148.2	121.0	192.6	-27.2	-71.6	1,460.6	1,437.7	1,558.4	-12.9	-120.7				8,462.7	8,460.8	11.8		
d. UNDISTRIBUTED BUDGET														0	0	0		
e. SUBTOTAL (PERFORMANCE MEASUREMENT BASELINE)	2,051.3	1,598.2	2,131.7	-453.1	-533.5	11,346.3	10,064.7	10,887.8	-1,281.6	-822.9				63,439.2	63,289.4	149.8		
f. MANAGEMENT RESERVE															1,272.30			
g. TOTAL	2,051.3	1,598.2	2,131.7	-453.1	-533.5	11,346.3	10,064.7	10,887.8	-1,281.6	-822.9				64,711.5				

DD FORM 2734/2, JAN 05

LOCAL REPRODUCTION AUTHORIZED

Undassified

CLASSIFICATION (When Filled In)



Sample IPMR – Format 3

Unclassified CLASSIFICATION (When Filled In)																
CONTRACT PERFORMANCE REPORT FORMAT 3 - BASELINE																
DOLLARS IN THOUSANDS																
FORM APPROVED ON																
Boxes 1 - 4 <small>Collection of information is estimated to average 6.3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing per response, including the time for review, for the collection. This burden estimate applies to this version of the form only. The burden hour estimate does not include the time for developing new forms or for responding to comments received during OMB review. The burden hour estimate does not include the time for developing new forms or for responding to comments received during OMB review. Any other provision of law or regulation shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH THE INSTRUCTIONS.</small>																
Key Contract & Contractor Data																
1. CONTRACTOR a. NAME Incredia, Corp b. LOCATION (Address and ZIP Code) 1000 W Hollymolly St Los Angeles, CA 90293																
2. CONTRACT a. NAME LAR DEC 2003 b. NUMBER DAARH01-03-C-0076 c. TYPE CPIF																
3. PROGRAM a. NAME LAR Vehicle b. PHASE \$ 00 c. EVMS ACCEPTANCE NO YES X (YYYYMMDD) 19850519																
4. CONTRACT DATA a. ORIGINAL NEGOTIATED COST Box 5 Budget and Key Dates b. NEGOTIATED c. CURRENT NEGOTIATED COST (a. + b.) \$647115 d. ESTIMATED COST OF AUTHORIZED UNPRICED WORK \$0.0																
e. CONTRACT BUDGET BASE (c. + d.) \$64,711.5 f. TOTAL ALLOCATED BUDGET \$64,711.5 g. DIFFERENCE (e. - f.) \$0.0																
h. CONTRACT START DATE (YYYY MM DD) 20030602			i. CONTRACT DEFINITIZATION DATE (YYYYMMDD) 20030610			j. PLANNED COMPLETION DATE (YYYYMMDD) 20060530			k. CONTRACT COMPLETION DATE (YYYYMMDD) 20060531			l. ESTIMATED COMPLETION DATE (YYYYMMDD) 20060530				
6. PERFORMANCE DATA																
Box 6 a. PERFORMANCE MEASUREMENT BASELINE (Beginning of Period)	BCWS CUMULATIVE TO DATE (2)	BCWS FOR REPORT PERIOD (3)	BUDGETED COST FOR WORK SCHEDULED (BCWS) (Non-Chattable)						ENTER SPECIFIED PERIODS						UNDISTRIBUTED BUDGET (15)	TOTAL BUDGET (16)
			+1 JAN (4)	+2 FEB (5)	+3 MAR (6)	+4 APR (7)	+5 MAY (8)	+6 JUN (9)	Fy04 (10)	Fy05 (11)	(12)	(13)	TC (14)			
	9,295.0	2,095.5	1,742.3	1,793.8	1,800.8	1,762.5	1,803.7	1,830.1	5,202.2	20,452.3	0.0	0.0	15,679.3	0.0	63,457.5	
b. BASELINE CHANGES AUTHORED DURING REPORT PERIOD	The EV performance measurement baseline at beginning of the period															
	Format 3 provides the budget baseline plan against which performance is measured. Format 3 is option for contracts < \$50M. Unlike format 1 and 2 which each report historical performance, Format 3 forecasts the plan for the next six months and other selected intervals.															
c. PERFORMANCE MEASUREMENT BASELINE (End of Period)	BCWS	The updated EV performance measurement baseline at end of period reflecting accomplishments and replanned activities—THE NEW PMB														
		11,346.3	2,224.5	1,777.3	1,757.4	1,750.4	1,777.4	1,775.0	5,408.2	19,826.5	0.0	0.0	15,996.1	0.0	63,439.1	
7. MANAGEMENT RESERVE	Management Reserve Box 7												1,272.3			
8. TOTAL	Total Box 8												64,711.4			



Sample IPMR - Format 4

CONTRACT PERFORMANCE REPORT FORMAT 4- STAFFING														FORM APPROVED ON		
Unclassified CLASSIFICATION (When Filled In)																
Boxes 1 - 4															Key Contract & Contractor Data LAR DEC 2003 LAR Vehicle 20031129 DAAH01-03-C-0076 SDD CPIF 50/50 30/70 NO YES X 20031231 YYYYMMDD 19850519	
1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4.										
a. NAME		a. NAME		a. NAME		a.										
Increda, Corp		LAR DEC 2003		LAR Vehicle		20031129										
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE		b.										
1000 W Hollymolly St Los Angeles, CA 90293		DAAH01-03-C-0076		SDD		TO (YYYY MM DD)										
6. PERFORMANCE DATA (Amounts in Whole Numbers)																
ORGANIZATIONAL CATEGORY Box 5	ACTUAL CURRENT PERIOD (1)	ACTUAL END OF CURRENT PERIOD (Cumulative) (2)	SIX MONTH FORECAST BY MONTH (Enter Names of Months)						ENTER SPECIFIED PERIODS						AT COMPLETION (15)	
			+1 JAN (4)	+2 FEB (5)	+3 MAR (6)	+4 APR (7)	+5 MAY (8)	+6 JUN (9)	FY04 (10)	FY05 (11)	(12)	(13)	TC (14)			
2A- PROGRAM OFFICE	12	67	12	25	25	12	12	12	27	109	0	0	73	374		
2B- PROGRAM CONTROL	5	36	5	12	18	6	6	6	10	39	0	0	26	163		
2C- SUPPORT SERVICE	0	0	0	0	0	0	0	0	18	70	0	0	47	134		
2D- MANUFACTURING	29	142	27	27	57	39	30	19	156	625	0	0	417	1539		
2E- QUAL ASSURANCE	4	21	6	6	1	5	1	2	25	99	0	0	66	230		
2F- PROCUREMENT	5	31	6	8	3	18	6	5	11	46	0	0	30	162		
2G- ENGINEERING	103	542	107	85	84	130	95	66	64	255	0	0	170	1598		
Format 2 Organizational Reporting Structure															Format 3 Forecast Periods	
<p>Format 4 provides staffing forecasts for correlation with the budget plans, cost and schedule estimates. It includes EVM data for material accounts and major subcontracts. Format 4 is option for contracts < \$50M. Format 4 is reported by staff months rather than dollars or hours.</p>																
Box 6																
6. TOTAL DIRECT		167.0	839.2	162.9	163.2	187.4	210.9	149.7	109.2	310.1	1240.8	0.0	0.0	827.2	4200.6	
DD FORM 27344, JAN 03																
Unclassified CLASSIFICATION (When Filled In)																
LOCAL REPRODUCTION AUTHORIZED.																



Sample IPMR – Format 5

Unclassified

ANSWER

Boxes 1 - 4

**CONTRACT PERFORMANCE REPORT
FORMAT 5 - EXPLANATIONS AND PROBLEM ANALYSES**

The public reporting burden for this collection of information is estimated to average 38 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the forms per response, including the time for review by other aspect of the collection of information, including suggestions for reducing this burden. To Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1G, Washington, DC 20407-0001. This burden is to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1G, Washington, DC 20407-0001. Any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH THE INSTRUCTIONS.

I. CONTRACTOR	2. CONTRACT	3. PROGRAM	Data 20031129		
a. NAME	Increda, Corp	a. NAME	LAR DEC 2003	a. NAME	LAR Vehicle
b. LOCATION (Address and ZIP Code)	1000 W Hollymolly St Los Angeles, CA 90293	b. NUMBER	DAAH01-03-C-0076	b. PHASE	SDD
c. TYPE	CPIF	d. SHARE RATIO	50/50	e. EVMS ACCEPTANCE	NO YES X
f. EVALUATION		(YYYYMMDD)	19850519	TO (YYYYMMDD)	20031231

Key Contract & Contractor Data

20031123

2003123

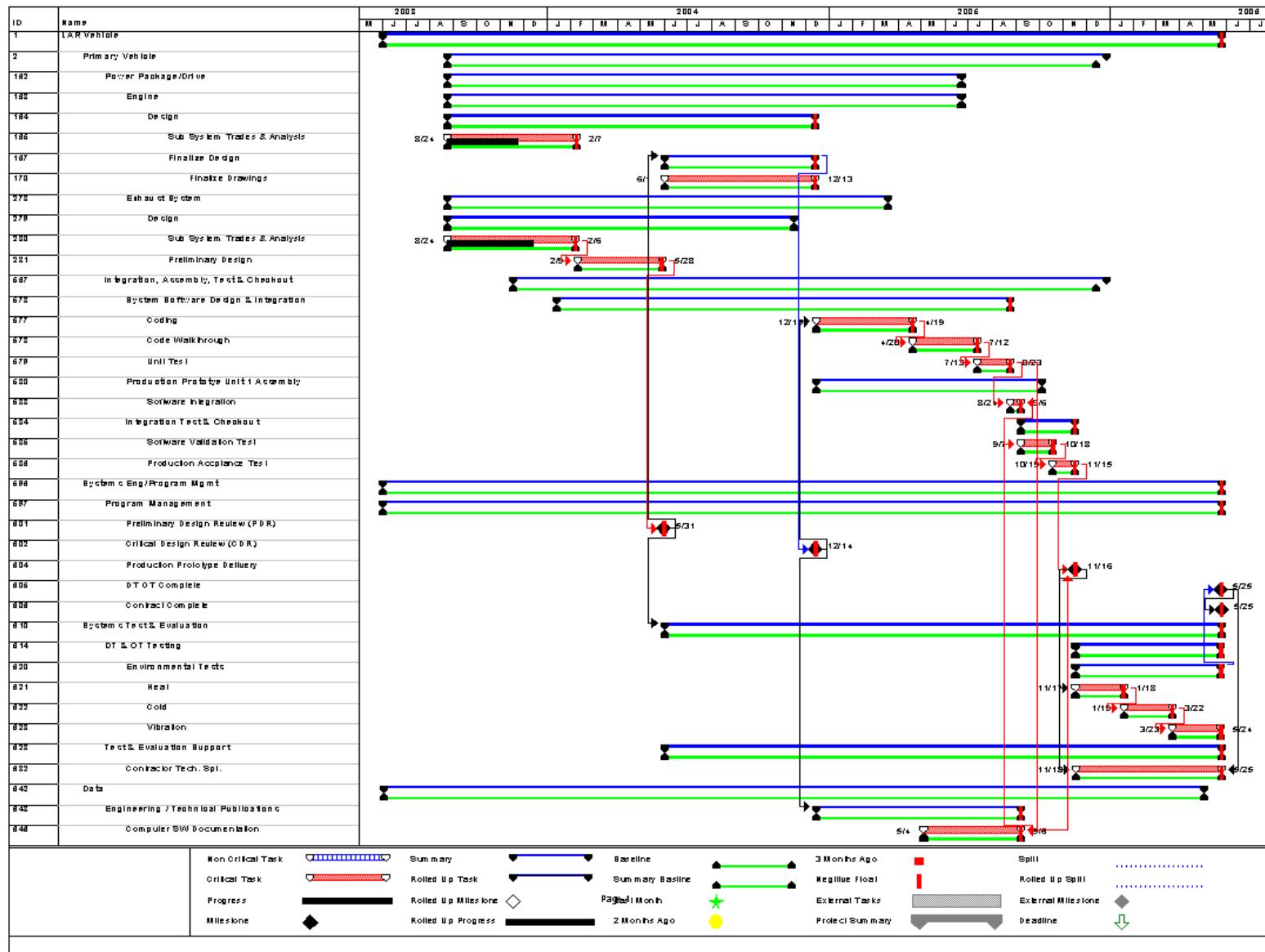
Box 5

Discussion should include but is not limited to:

- Summary Analysis
 - Summary of Overall Contract Variances
 - Changes in Management Reserve
 - Changes in Undistributed Budget
 - Differences between EAC's (Blocks 6.a, 6.b, 6.c, or Block 8.15) (Format 1)
 - Significant timephasing shifts in Baseline (BCWS) (Format 3)
 - Significant timephasing shifts or Overall Changes in Forecasted Staffing (Format 4)
 - Discussion of Over Target Baseline and/or Over Target Schedule incorporation
 - Analysis of Significant Variances: (identify and describe each)
 - Type and Magnitude of Variance
 - Explanation of Significant Reasons
 - Effect on Immediate Task
 - Effect on Total Contract
 - Corrective Actions Taken or Planned

Format 5 is a narrative report used to explain significant cost and schedule variances and other identified contract problems and topics. It is mandatory for all EVMS contracts. Research has indicated that two thirds of the costs associated with EVMS can be attributed to variance analysis reporting.

Sample IPMR - Format 6





TRN or XML/UNCFACt Format containing:

Historical data (BCWS, BCWP, ACWP, BAC, etc...)

Future data (ETC, EAC, etc...)



Performance Data Analysis Objectives

- Determine Current Status (Top Drivers)
 - Where Are We Today?
- Identify Trends
 - Where Are We Headed?
 - Any Cost, Schedule Surprises?
- Forecast The Future (EAC Realism)
 - What Is The EAC (Cost & Price)?
 - What Is The Impact On The Budget?
- Indicate Areas For Management Action
 - What Should We Do Now?

Challenge – Turning Data Into Meaningful Information for Decision Makers



Estimate at Completion (EAC)

- What Will Be The Final Cost? -

- Definition: Actual Cost To Date + Estimated Cost Of Work Remaining (ACWP + ETC = EAC)
- Contractor Develops Comprehensive EAC At Least Annually ("Grass Roots Method" – ACWP + ETC = EAC)
 - Should Examine On Monthly Basis
- EAC Considerations:
 - Performance To Date
 - Impact Of Approved Corrective Action Plans
 - Known/Anticipated Problems
 - Best Estimate Of Cost To Complete Remaining Work
- Statistical Formulae Method - Three Elements:
 - Budgeted Cost Of Work Remaining (BAC-BCWP)
 - Projected Performance Efficiency



EAC Realism

- **Common Performance Factor Methods**
- **TCPI = To Complete Performance Index Efficiency Necessary To Complete - Either On Budget (BAC) Or On The (EAC).**

$$\text{TCPI}_{(BAC)} = \frac{\text{Work Remaining}}{\text{Cost Remaining}} = \frac{\text{BAC} - \text{BCWP}}{\text{BAC} - \text{ACWP}}$$

- **$\text{TCPI}_{(BAC)} = \text{Work Remaining} / \text{Cost Remaining}$**
- **$\text{TCPI}_{(BAC)} = (\$4k - \$1K) / (\$4k - \$2K) = \$3K / \$2K = 150\%$**
- **Compare CPI & TCPI to Assess Realism Of Future Performance - *"Reality Check"***
 - **$\text{TCPI} = 150\% \text{ while } \text{CPI} = 50\%$**
 - ***They are earning \$0.50 on the dollar spent, and their performance will have to improve to earning \$1.50 per dollar spent for the remainder of the contract.***

If $\text{TCPI} > \text{CPI}$ by .05, Then Question EAC
If $\text{TCPI} >\text{or}< \text{CPI}$ by .10 Then OSD TW tripped



Summary

- Earned Value Management is required by Law, OMB Circular A-11 policy guidance, and DoDI 5000.2
- EVM is the most comprehensive program management tool
- Senior DOD and Congressional Leaders use it to make program decisions
- Management involvement ensures EVM data is used in a proactive manner to manage programs and make timely corrective action decisions

EVM helps you identify risk, ask the right questions and make sound decisions to Keep Programs on Track.

Questions?